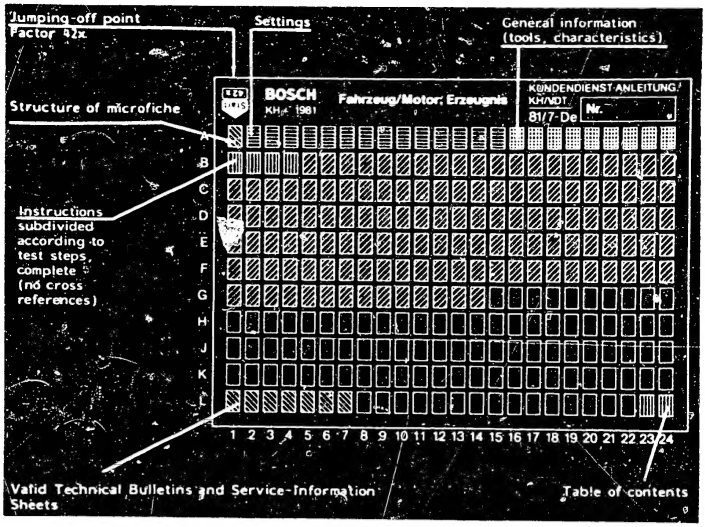
Structure of microfiche



1. Read from left to right

2. Title of microfiche (appears on each coordinate)

E 16	Product/assembly/test step Vehicle/engine	

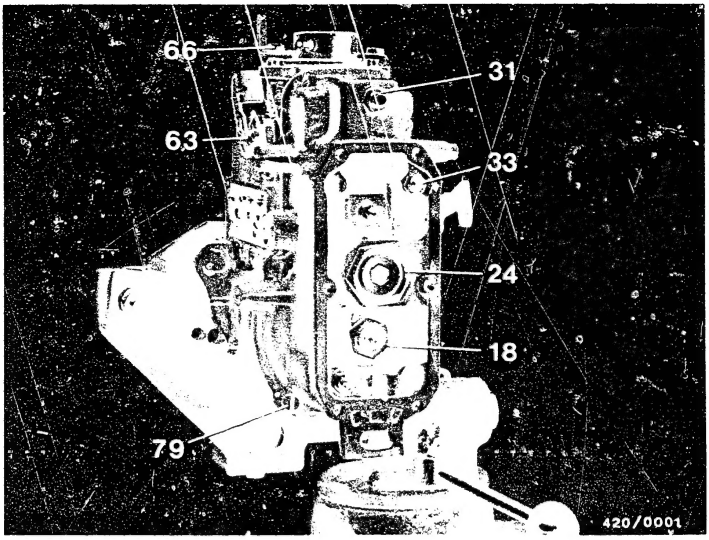
Coordinate

3. Limits of section

Beginning | Mid-section | End | One-page section

C6

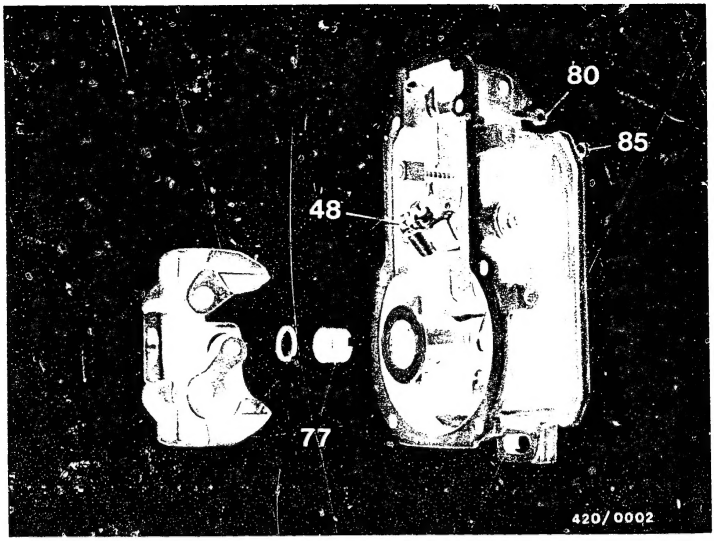
4. References to relevant test sections in the section on settings. Coordinates e.g. C6



1. Settings

1.1 Tightening torques

Item No.	Designation	Nm	kgfm
18	Hexagon nut	30...35	3.0...3.5
24	Hexagon nut	60...80	6.0...8.0
31	Hexagon nut	17...24	1.7...2.4
33	Hexagon nut	7... 9	0.7...0.9
63	Hexagon nut	3... 4	0.3...0.4
66	Fillister-head screw	5... 7	0.5...0.7
79	Fillister-head screw	5... 7	0.5...0.7

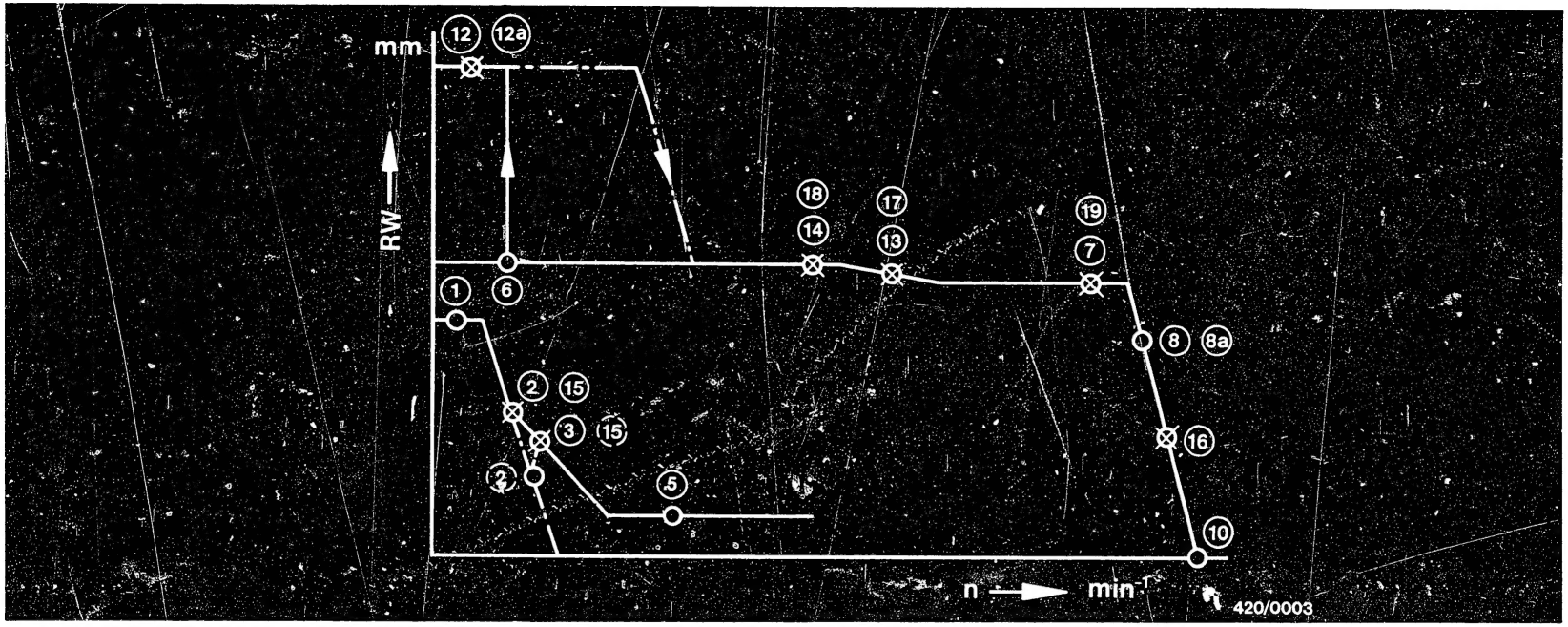


Tightening torques

Item No.	Designation	Nm	kgfm
48	Hexagon nut	6... 7	0.6...0.7
77	Round nut	50...60	5.0...6.0
80	Fillister-head screw	5... 7	0.5...0.7
85	Fillister-head screw	5... 7	0.5...0.7

Test step	Test specifications
1.2 Idle-speed stage	**B5**
at n = 1000 min^{-1}	RW* = 1.9...2.0 mm
1.3 Setting for idle-speed auxiliary spring cutoff	
up to and including FD 044	2.8...3.2 mm **C3**
up to and including FD 045	2.6...2.7 mm

*RW means control-rod travel



RW = Control-rod travel
n = Injection pump speed

O = Control-rod travel measurement point
X = Fuel-delivery measurement point

1 = Loading characteristic
2 = Idle control-rod travel
3 = Idle-speed auxiliary spring
5 = Ungoverned stage
6 = Change-over point
7 = Maximum full-load control-rod travel

8 = Full-load speed regulation control-rod travel
8a= Full-load speed regulation fuel delivery
10 = Sliding-sleeve position test point
12 = Starting control-rod travel
12a= Starting fuel delivery
13 = Torque-control control-rod travel

14 = Full-load control-rod travel
15 = Low idle delivery
16 = High idle delivery
17 = Torque-control delivery
18 = Full-load delivery point
19 = Maximum full-load delivery

2. Governor characteristics

The points marked in the graph correspond to the test points of the respective test-specification sheet in the test-specifications microfiches for injection equipment.

A5 Governor characteristics
Mechanical governors RSF..M../0 420 021...

A6 Governor characteristics
Mechanical governors RSF..M../0 420 021...

3. General information

3.1 Item numbers

Item numbers occurring in the text are identical with the item numbers in the service-parts list.

3.2 Information on the test specifications

In order to test the governor, it is necessary to have a test-specifications microfiche which should be placed in the second microfiche carrier of the reader.

3.3 Information on fuel-delivery testing and adjustment

- Section A of the test-specification sheet

For testing and adjusting the governor it is assumed that the associated fuel-injection pump is in proper mechanical condition and that it has already been correctly adjusted as regards the hydraulics (according to Section A of the test-specification sheet).

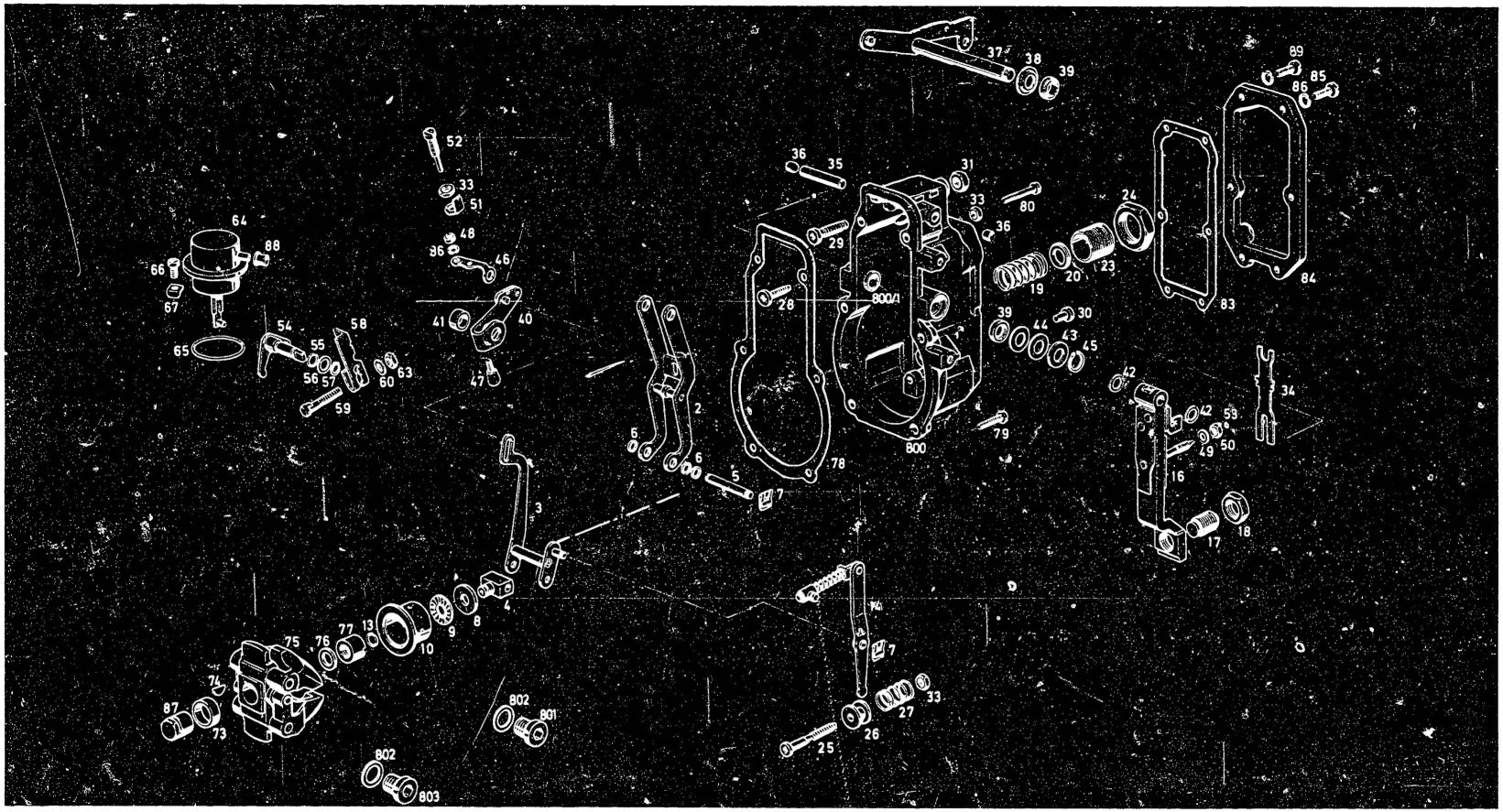
- Section C of the test-specification sheet

The difference in fuel delivery (scatter) given in Section A, Column 4 applies - converted to 1000 stroke measurement - also to the full-load fuel-delivery scatter (Section C).

3.4 Information on functional testing and adjustment

- If the governor is only being checked for proper mechanical condition without any prior repairs, it remains fully installed on the fuel-injection pump. The governor and the pump are then installed as a unit on the injection-pump test bench and are checked.

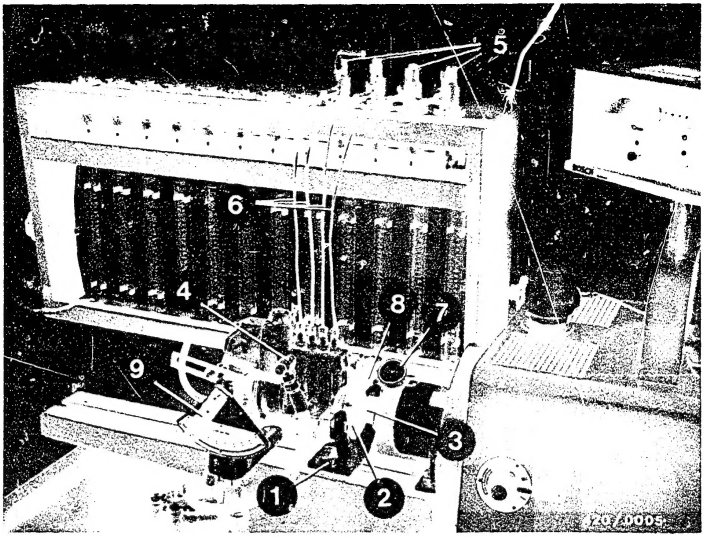
- If, on the other hand, the governor is being re-adjusted and tested after prior repairs, it is installed without closing cover on the injection pump which is already on the injection-pump test bench.



4. Exploded view of RSF governor

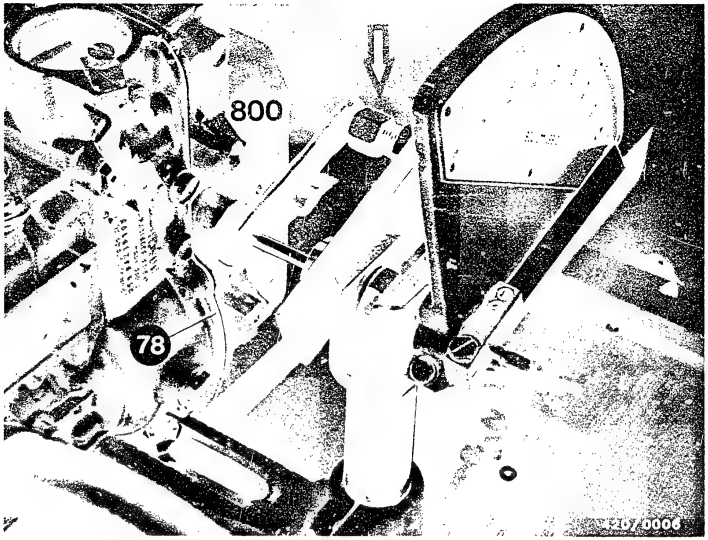
5. Tools

Designation	Part No.	Use
Measuring tool	1 688 130 042	For measuring the control-rod travel
Dial indicator	1 687 233 015	For measuring the control-rod travel
Setting device	0 681 440 006	For setting the control-lever angle
Pin socket wrench	KDEP 2968	For setting the spring retainer (17)
Puller	KDEP 2886	For removing the flyweights (75)
Pin socket wrench	KDEP 2919	For removing the flyweights (75)



6. Test set-up

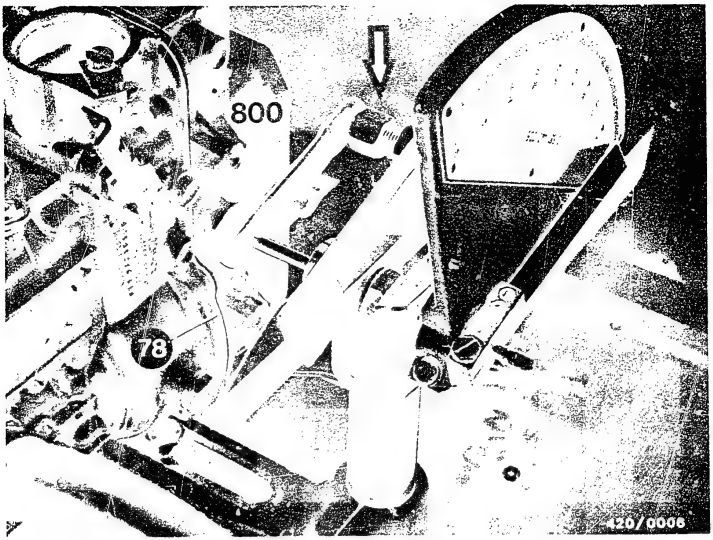
Item	Designation	Part No.
1	Universal clamping bracket	1 688 010 010
2	Clamping flange	1 685 720 018
3	Coupling half	1 416 430 012
4	Fitting	1 683 457 081
5	Calibrating nozzle-and-holder assembly	0 681 343 009
6	Test pressure lines 6x2x600 mm	1 680 750 014
7	Dial indicator	1 687 233 015
8	Measuring tool	1 688 130 042
9	Setting device	0 681 440 006



7. Adjusting the governor

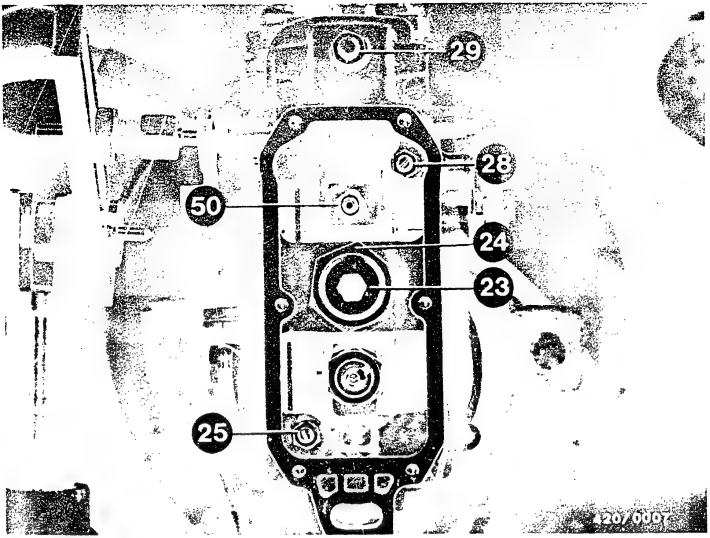
7.1 Preparing the governor

Fit the governor cover (800) on the injection pump with the compound lever installed. Do not forget the gasket (78) between governor cover and pump.
The closing cover of the governor is not installed. Fit the setting device 0 681 440 006 (arrow) to the control lever of the governor so that it is free of tension.
Depending on the type of test bench, it may be necessary to install an auxiliary lever (control lever of RQV governor) on the opposite side of the governor control lever.



In this case, fit the setting device 0 681 440 006 to this lever (arrow).

The pointed pivot of the angle indicator must point to the centrepoint of the control-lever shaft.
The swivel arm of the setting device is fastened free of tension to the control lever.

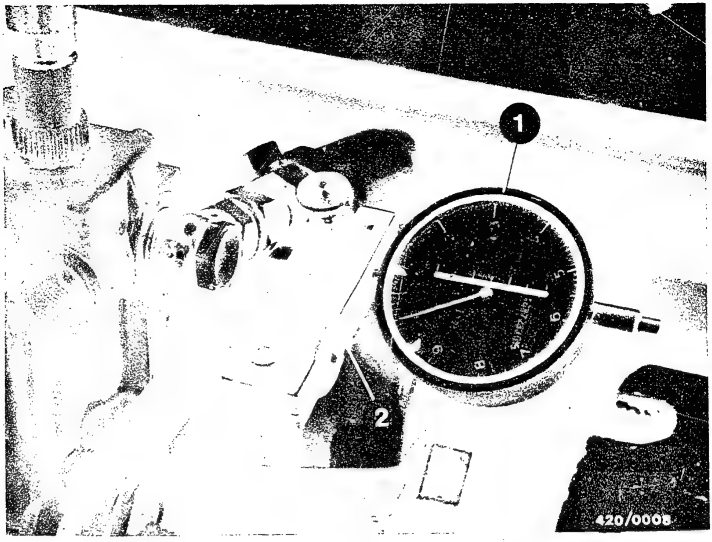


Screw the adjusting screw (29)out of the governor cover to preliminary setting ~ 12 mm (distance from raised portion of stud to hexagon nut).

Screw the adjusting screw (28) to preliminary setting ≈ 7 mm (distance from raised portion of stud to hexagon nut). Screw out the lock nut (50) as far as the retainer (visible at beginning of thread).

Screw in the threaded sleeve (23) until it is flush with the hexagon nut (24).

Screw the guide pin (25) to preliminary setting ≈ 6 mm (distance from raised portion of stud to hexagon nut).



7.2 Measuring the control-rod travel

Check whether control-rod travel "0" is equal to zero on the control-rod-travel measuring device.
To do this, pull back the control rod to the shutoff end stop and check whether the pointer is at zero on the dial indicator (1) (1 687 233 015).
If not, correct the dial-indicator indication by moving the dial indicator in the dial-indicator holder (2) (1 688 130 042).

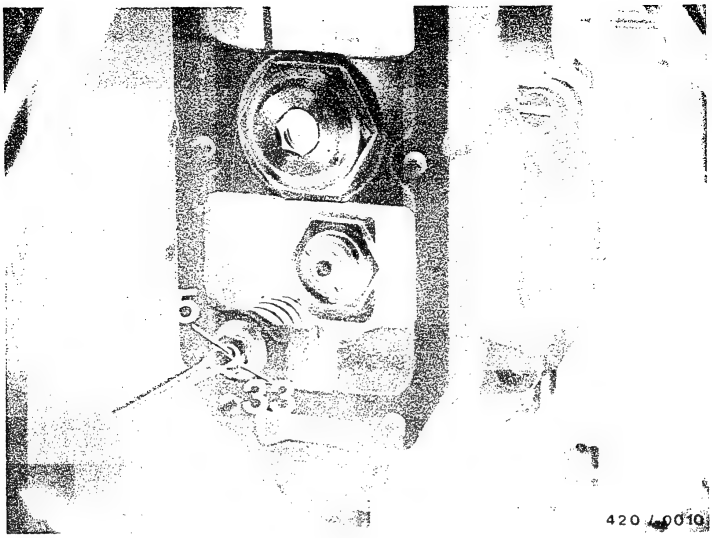
7.3 Adjusting the idle-speed stage

At a speed of "0", use the control lever of the governor to set a control-rod travel of 13.4 mm. If a control-rod travel of 13.4 mm is not reached, correct at guide pin (25). Lock the control lever in this position.

Drive the injection pump at a speed of n = 1000 min^{-1}. Loosen the hexagon nut of the spring retainer (torque-control retainer) using pin socket wrench KDEP 2968.

Screw out the spring retainer until a control-rod travel of 1.9 - 2.0 mm is reached (picture).

Tighten the hexagon nut of the spring retainer to 30...35 Nm (3.0...3.5 kgfm).
Then check that the control-rod travel is 1.9...2.0 mm.

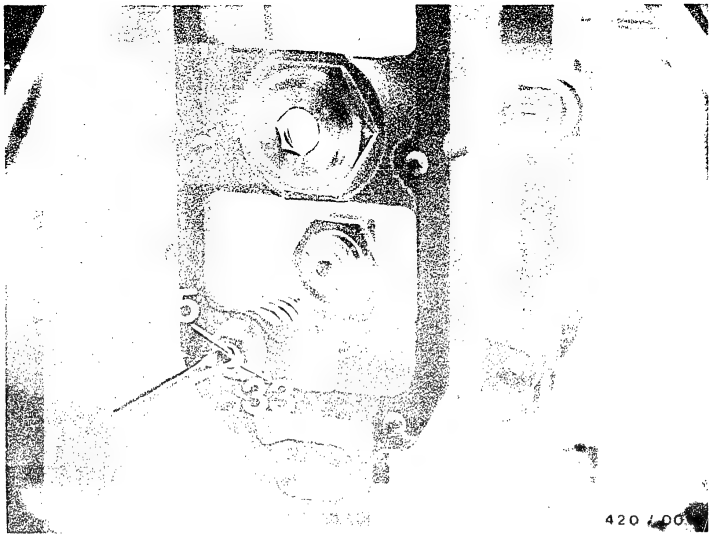


7.4 Setting the full-load control-rod travel and measuring the fuel delivery

(Section B, Point (14) and Section C, Point (13) in the test-specifications microfiche)

Loosen the control lever and move it up against the full-load stop (head of hexagon-socket-head cap screw on side of governor control lever).
Set the pointer of the setting device 0 681 440 006 to the control-lever angle in accordance with the test-specification sheet (Section B, Column 4).

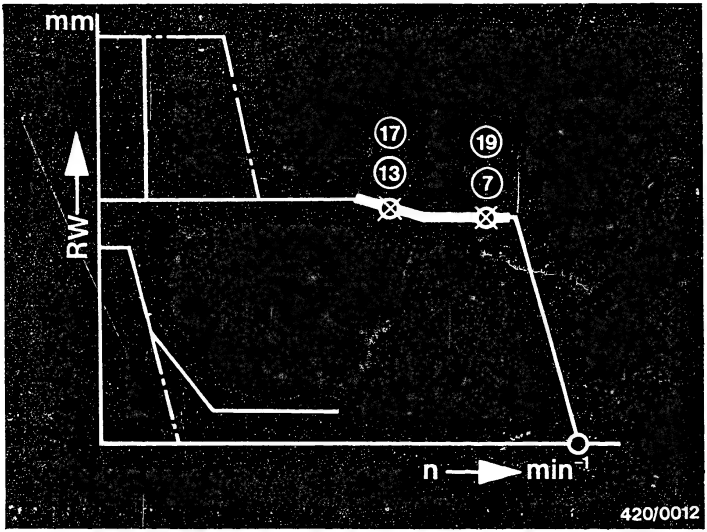
Drive the injection pump at the speed given in Section B, Point (14) of the test-specification sheet.



Set the control-rod travel using the guide pin (25).

After the control-rod travel has been precisely set, tighten the hexagon nut (33) to 5...7 Nm (0.5...0.7 kgfm) and test the fuel delivery according to Section C, Point (18) .

If the fuel delivery is not reached, correct it by changing the control-rod travel within the tolerance (Section B, Point (14)).



RW = Control-rod travel
n = Injection pump speed

7.5 Checking the torque-control characteristic

(Section B, Points (13) and (7), as well as Section C, Points (17) and (19) in the test-specifications microfiche)

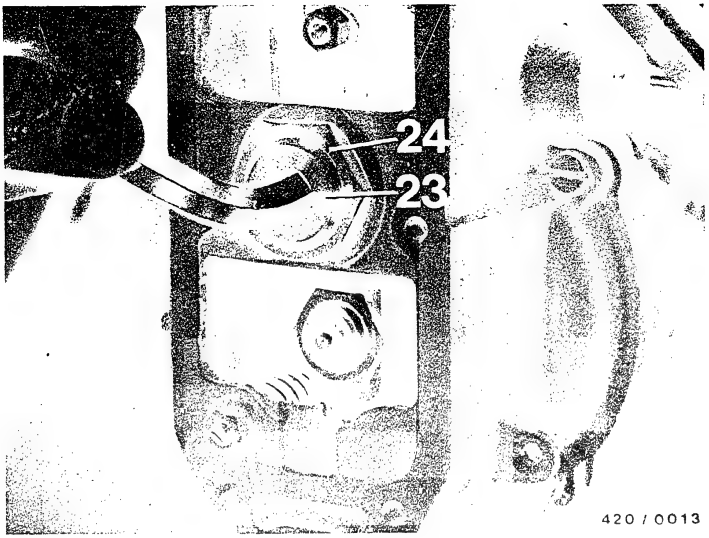
Drive the injection pump at the speed given in Section B, Point (13) of the test-specification sheet and check the control-rod travel on the dial indicator.

At the same speed, test the fuel delivery according to Section C, Point (17).

Drive the injection pump at the speed given in Section B, Point (7) and check the control-rod travel on the dial indicator.

At the same speed, test the fuel delivery according to Section C, Point (19) .

In case of deviation from the specification, the spring retainer (17) (torque-control retainer) must be replaced.
This makes it necessary to re-adjust the governor.

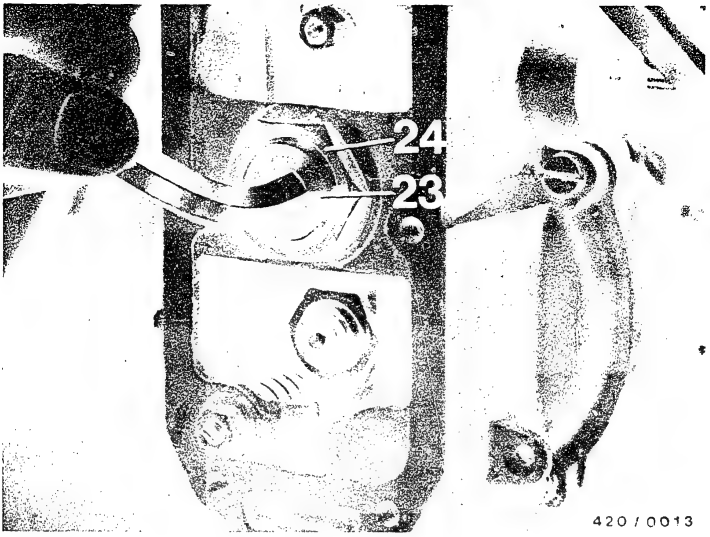


7.6 Setting the full-load speed regulation

(Section B, Point (8) in the test-specifications microfiche)

Drive the injection pump at the speed given in Section B, Point (8) of the test-specification sheet.
Loosen the hexagon nut (24).
Screw out the threaded sleeve (23) (picture) until the stated control-rod travel is reached.

Tighten the hexagon nut (24) to 60...80 Nm (6.0...8.0 kgfm).



7.7 Checking the high-idle speed

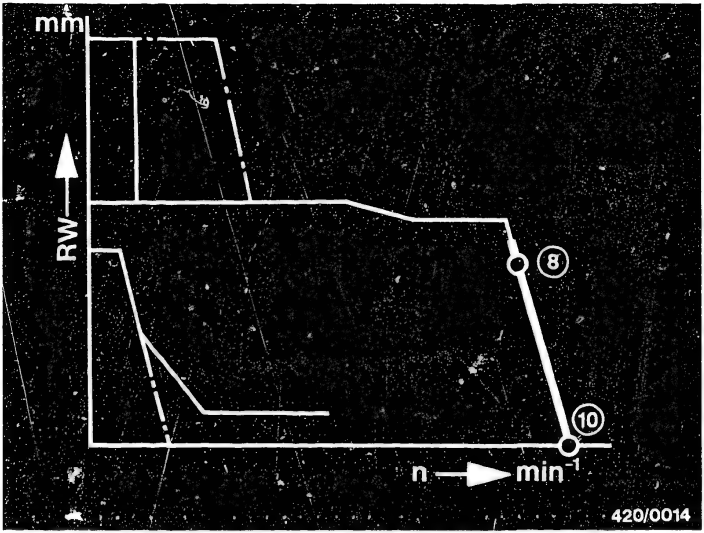
(Section C, Point (16) in the test-specifications microfiche)

Drive the injection pump at the speed given in Section C, Point (16) of the test-specification sheet and measure the fuel delivery. The measured fuel delivery must be reached.

If necessary, correct at the threaded sleeve (23). To do this, loosen the hexagon nut (24).
When doing this, it is absolutely essential to observe the control-rod travel tolerance given in Section B, Point (8) of the test-specification sheet.

After a correction has been made, tighten the hexagon nut (24) to 60...80 Nm (6.0...8.0 kgfm).

If the fuel delivery required according to Section C, Point 16 is not reached without exceeding the tolerance for the control-rod travel (Section B, Point (8)), replace the governor spring Item 19.
In this case, re-adjust the governor.



RW = Control-rod travel
n = Injection pump speed

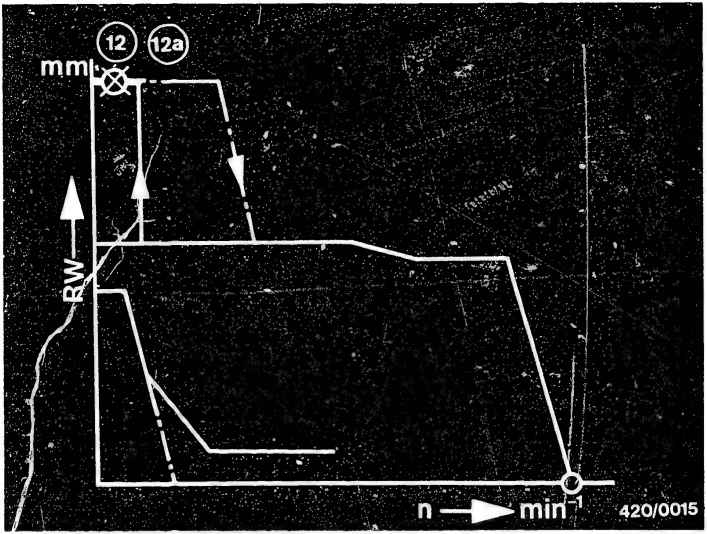
7.8 Checking the sliding-sleeve position

(Section B, Point (10) in the test-specifications microfiche)

Drive the injection pump at the speed given in Section B, Point (10) of the test-specification sheet.
The control-rod travel as per test-specification sheet must be reached.

In case of deviations, check the settings of the idle-speed stage (setting: 1.9...2.0 mm at n = 1000 min^{-1}) and of the full-load speed regulation (Section B, Point (8)).

If both these points are OK, replace the governor spring Item 19.
Then re-adjust the governor.



RW = Control-rod travel
n = Injection pump speed

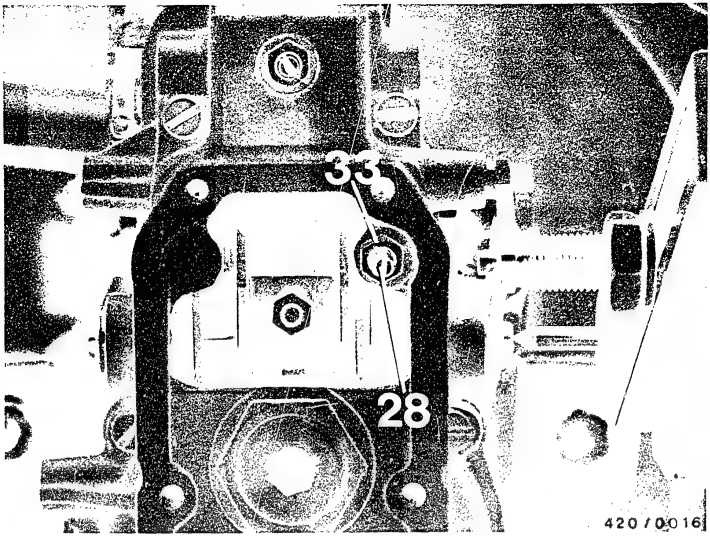
7.9 Checking the control-rod travel when starting and measuring the starting fuel delivery

(Section B, Point (12) and Section C, Point (12a) in the test-specifications microfiche)

Move the control lever of the governor up against the full-load stop (head of hexagon-socket-head cap screw on side of governor control lever) and lock in this position.
Drive the injection pump at the speed given in Section B, Point (12) of the test-specification sheet and check the control-rod travel on the dial indicator.

At the same speed, check the quantity of fuel injected according to Section C, Point (12a) .

In case of deviations, check the setting of the full-load control-rod travel (Section B, Point (14)) and, if necessary, check the control rod for freedom of movement (e.g. control rod sticking in inclined position).



7.10 Setting the position of the control lever at idle

(Test-specifications microfiche/2nd page of test-specification sheet)

Drive the injection pump at the speed given in the test-specification sheet.
Loosen the control lever.
After loosening the hexagon nut (33), screw in the adjusting screw (28) so that the control-rod travel according to the test specification is reached.

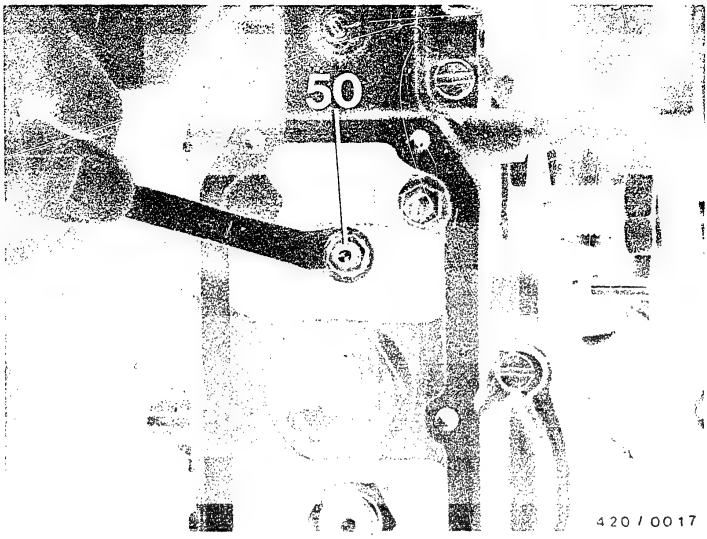
The resulting deflection of the control lever must lye within the specified tolerance (Section B, Point (1)).

If necessary, correct the set control-rod travel (2nd page of test-specification sheet) within the permissible tolerance.

Loosen the control lever and move to and fro. Lock the control lever in the idle position. The set control-rod travel must be reached again. If not, repeat adjustment.

Drive the injection pump at the speed given in Section C, Point (15) of the test-specification sheet and measure the fuel delivery.

If the fuel delivery according to the test-specification sheet is not reached, correct the control-rod travel within the permissible tolerance. If necessary, check the basic setting of the injection pump (Section A of the test-specification sheet).

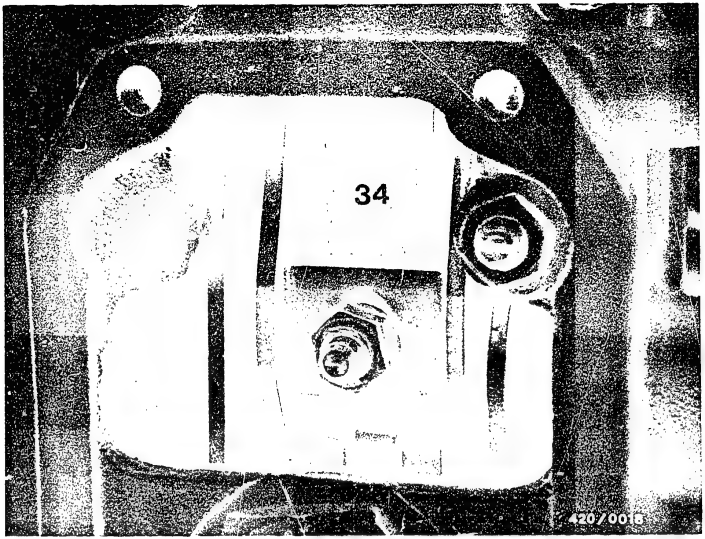


7.11 Setting the control-rod travel at idle and measuring the fuel delivery

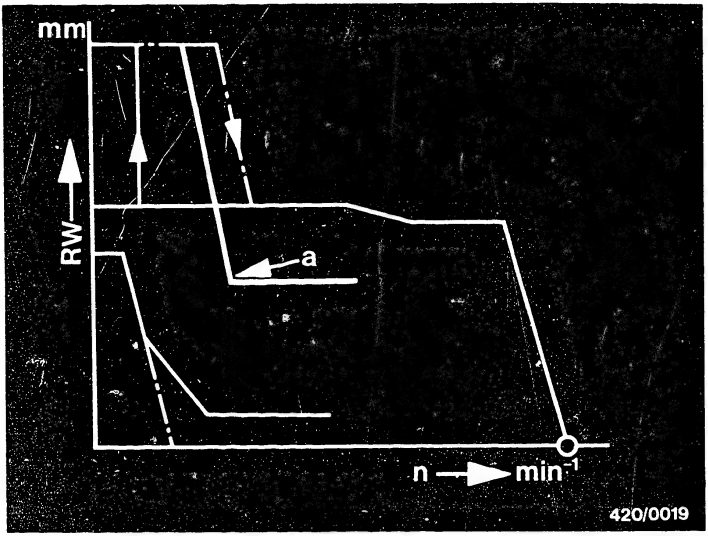
(Section B, Point (2) ; Section C, Point (15) in the test-specifications microfiche).

Drive the injection pump at the speed given in Section B, Point (2) of the test-specification sheet.
The control lever of the governor is up against the idle stop.

Loosen the hexagon nut (31).
Screw in the adjusting screw (29) until the stated control-rod travel is reached.



Loosen the control lever and move to and fro. Lock the control lever in the idle position. The set control-rod travel must be reached again. If not, repeat adjustment. Drive the injection pump at the speed given in Section C, Point (15) of the test-specification sheet and measure the fuel delivery. If the fuel delivery according to the test-specification sheet is not reached, correct the control-rod travel within the permissible tolerance. If necessary, check the basic setting of the injection pump.



7.12 Setting the idle-speed auxiliary spring

(Section B, Point (3) in the test-specifications microfiche).

Drive the injection pump at the speed given in Section B, Point (3) of the test-specification sheet.
The control lever of the governor is up against the idle stop.
Screw the lock nut (50) toward the governor linkage until the resulting control-rod travel is exceeded by the amount according to the test-specification sheet (back page), i.e. the idle control-rod travel increases by this amount.
Loosen the control lever while maintaining the set speed and move to and fro once.
Re-lock the control lever in the idle position.
The set control-rod travel must be reached again.

7.13 Checking the loading characteristic

(Section B, Point ① in the test-specifications microfiche)

Drive the injection pump at the speed given in Section B, Point ① of the test-specification sheet.

Check the control-rod travel on the dial indicator.

In case of deviations from the set value, check the governor linkage for freedom of movement. If necessary, replace the leaf spring (34).

RW = Control-rod travel
n = Injection pump speed

7.14 Checking the idle-speed auxiliary spring cutoff

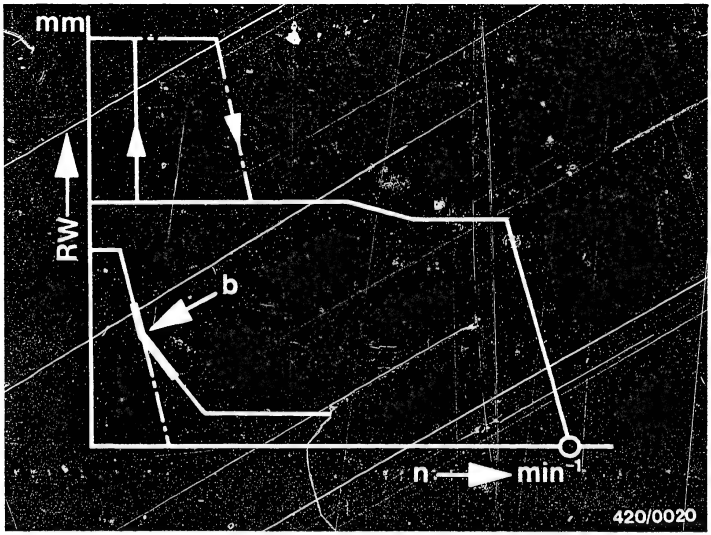
(2nd page of the test-specification sheet in the test-specifications microfiche)

Lock the control lever of the governor at an angle of 45° or 47° as stated in the test-specification sheet (back page). Uniformly increase the drive speed of the injection pump from "0" to the speed given in the test-specification sheet.

After the change-over point from the starting control-rod travel to the part-load control-rod travel (point a on the upper governor curve) no change in the control-rod travel is permitted.

Deviations should be corrected at the adjusting screw (52) of the idle-speed auxiliary spring cutoff. To do this, it is necessary to remove the governor cover (800).

Before doing this, check the idle-speed auxiliary spring cutoff at the smaller control-lever angle (next Coordinates).

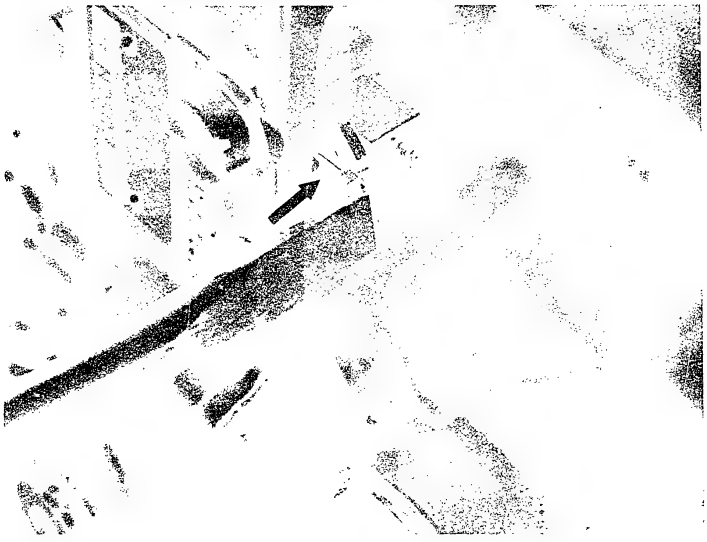


RW = Control-rod travel
n = Injection pump speed

Lock the control lever of the governor at an angle of 28° or 30° as stated in the test-specification sheet (back page).

Within the speed range given in the test-specification sheet an ungoverned stage is not permissible, i.e. the control-rod travel must continuously change as the speed increases (point b).

Deviations should be corrected at the adjusting screw (52) of the idle-speed auxiliary spring cutoff. To do this, it is necessary to remove the governor cover.

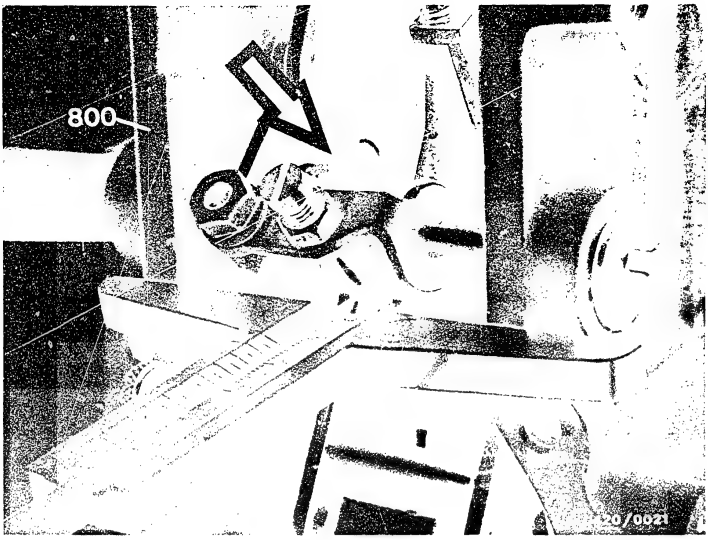


7.14 Checking the setting of the idle-speed auxiliary spring cutoff

Remove the setting device 0 681 440 006 from the control lever of the governor.

Remove the fastening screws of the governor cover (800).

Pull back the governor cover (800).
Unhook the clamping spring (arrow) from the connection stud of the fulcrum lever. Pull the fulcrum lever out of the control rod.



Remove the governor cover from the pump housing and clamp in a vice (use jaw covers).

Bring the control lever of the governor into the idle position and lock in this position.
Using a depth gauge, measure the distance from the governor cover (800) to the idle-speed auxiliary spring (arrow) (measuring point at end of spring).
Make a note of dimension 1.

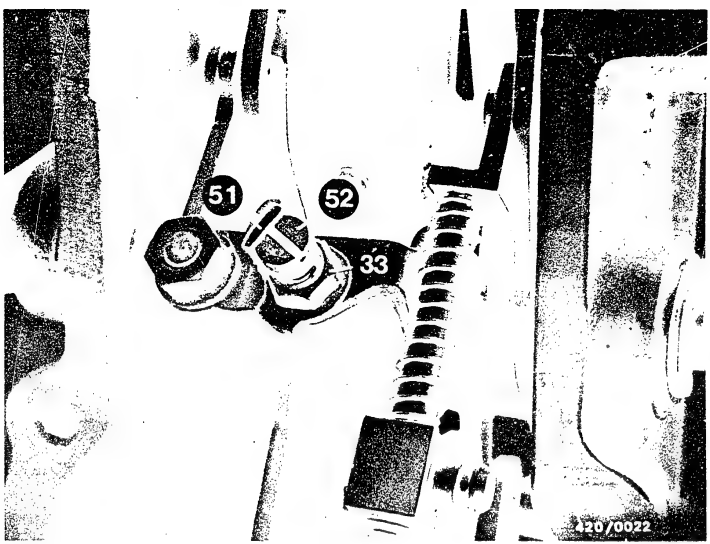
Position the control lever of the governor up against the full-load stop and lock in this position. Measure the distance from the governor cover to the compressed idle-speed auxiliary spring.
Make a note of dimension 2.

Subtract dimension 1 from dimension 2.
The difference between the two dimensions must correspond to the set value. Set value:

Up to and including FD (date of manufacture) 044 = 2.8...3.2 mm

As of FD (date of manufacture) 045 = 2.6...2.7 mm

If necessary, correct the dimensions.



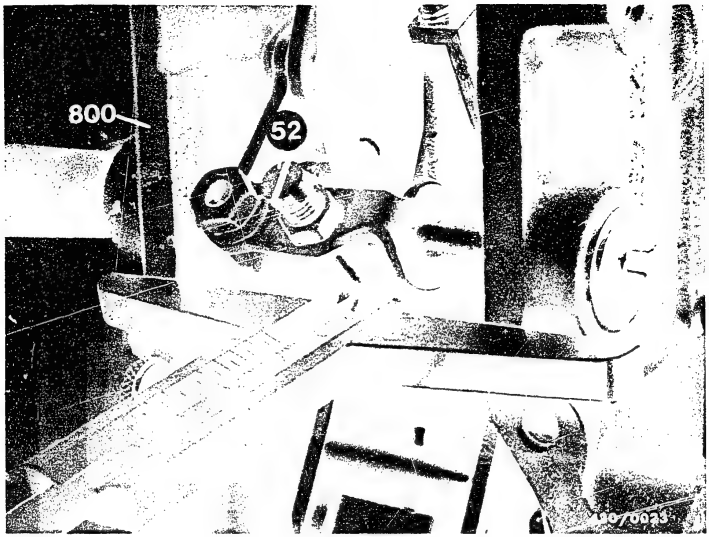
7.15 Correcting the idle-speed auxiliary spring cutoff

- Adjusting screw (52) with tab washer (51)

Bend up the tab washer (51).
Loosen the hexagon nut (33).
Unscrew the adjusting screw (52) and remove tab washer (51).

Degrease the adjusting screw (52) and hexagon nut (33) and coat thread with Loctite 601 (green).
Fit the adjusting screw with hexagon nut.

Bring the control lever of the governor into the idle position and lock in this position.



Using a depth gauge, measure the distance from the governor cover (800) to the idle-speed auxiliary spring (measurement point: end of spring).
Make a note of Dimension 1.

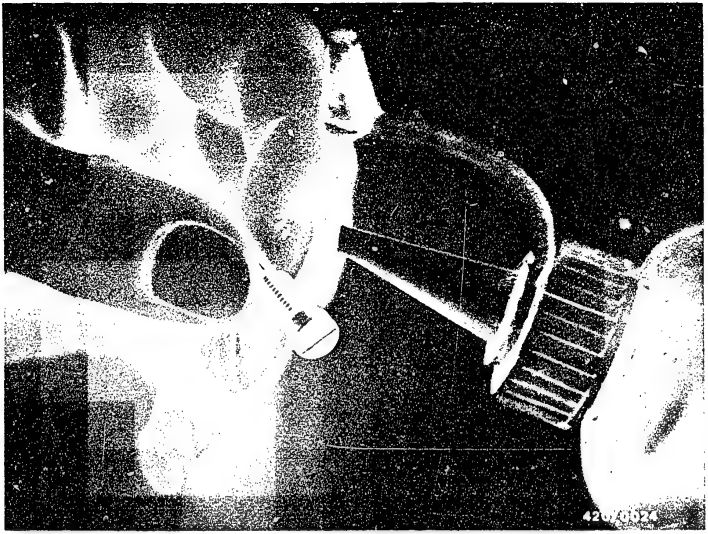
Move the governor control lever so that it contacts the full-load stop. Hold it in this position.

Measure the distance from the governor cover (800) to the fully compressed idle-speed auxiliary spring.
Make a note of Dimension 2.

Adjust adjusting screw (52) until the difference between dimensions 1 and 2 corresponds to the set value.
Set value:

Up to and including FD 044 = 2.8...3.2 mm

As of FD 045 = 2.6...2.7 mm



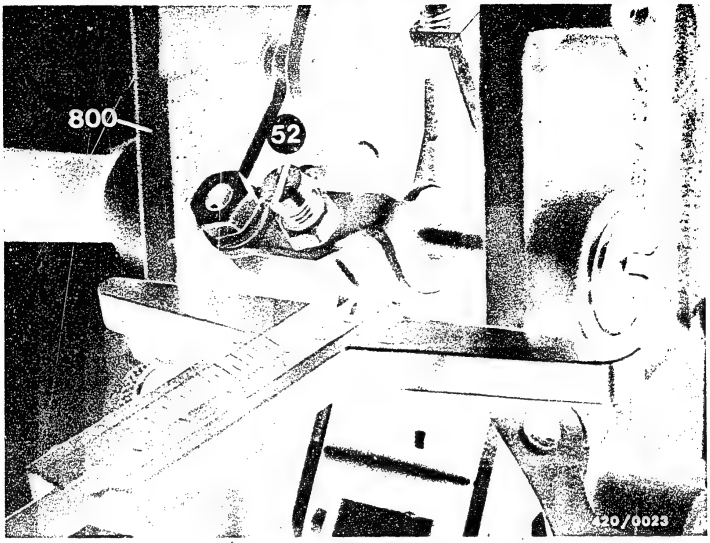
- Adjusting screw (52) without tab washer

Loosen the hexagon nut (33).

Unscrew the adjusting screw (52), if necessary applying counter-force at the hexagon nut (33).

Degrease the new adjusting screw (52) with hexagon nut (33) before installing and coat thread with Loctite 601 (green).

Install the adjusting screw (52) with hexagon nut (33). Bring the control lever of the governor up against the idle stop and lock in this position.



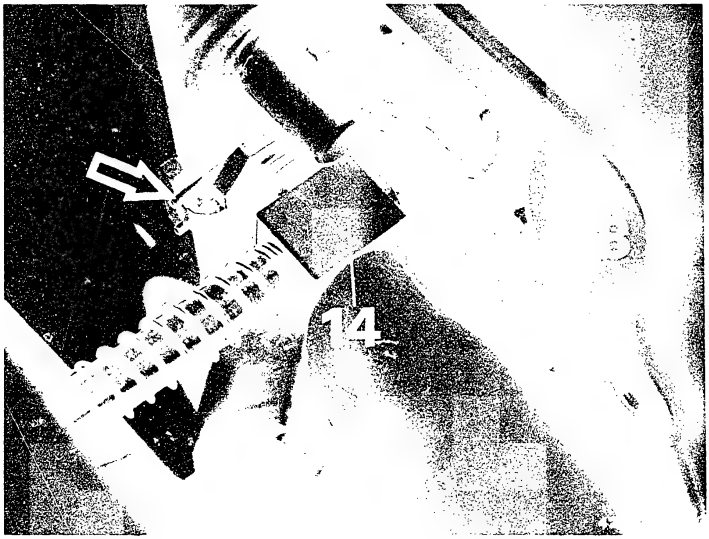
Using a depth gauge, measure the distance from the governor cover (800) to the idle-speed auxiliary spring (measuring point at end of spring).

Bring the control lever of the governor up against the full-load stop.

Measure the distance from the governor cover (800) to the compressed idle-speed auxiliary spring. Make a note of dimension 2.

Adjust the adjusting screw (52) until the difference between dimensions 1 and 2 corresponds to the set value. Set value:

Up to and including FD 044 = 2.8...3.2 mm
As of FD 045 = 2.6...2.7 mm

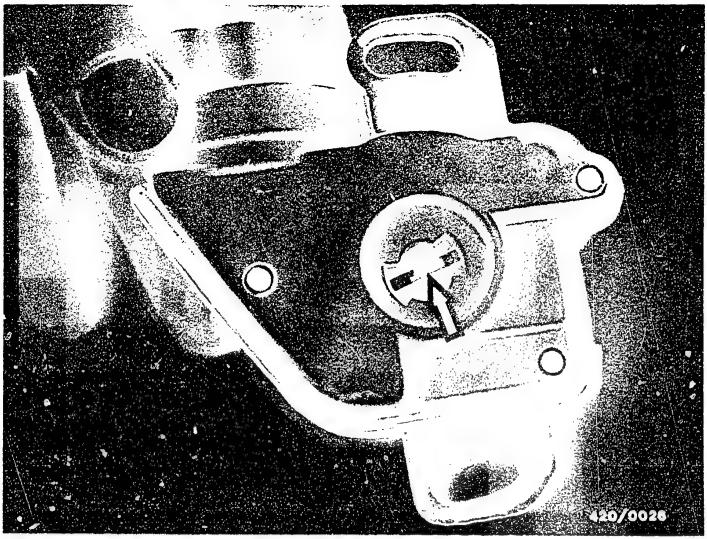


Mounting the governor cover (800)

Place a new gasket (78) on the governor cover.
Hook the clamping spring (arrow) into the control rod.
Bring the governor cover up against the bottom edge of the pump housing. Introduce the sliding sleeve into the flyweight part. Hook the fulcrum lever (14) into the control rod of the pump. Mount the fastening screws of the governor and tighten.
Tightening torque: 5...7 Nm (5.0...7.0 kgfm)

Fit setting device 0 681 440 006.

After this operation, it is necessary to re-adjust the governor starting at Coordinate B 5.



8. Mounting the vacuum-control valve

Bring the connection web (arrow) of the vacuum valve into the centre position.

Bring the control lever of the governor up against the full-load stop (Fig. 1).

Mount the vacuum-control valve on the opposite side of the control lever.

Screw in the fastening screws of the vacuum-control valve, but do not tighten.

With the control lever in the full-load position, pivot the vacuum-control valve to the right until it can be felt to come up against a stop (Fig. 2).

Tighten the fastening screws of the vacuum-control valve.

9. Final operations

Checking the operation of the shutoff box:

At a vacuum of 0.5 bar (375 mmHg) the pneumatic shutoff device must pull the control rod to "0" control-rod travel.
Replace the shutoff box if defective.

Fit the closing cover (84) with gasket.
Remove the control-rod-travel measuring device.
Remove the setting device.

Remove from the injection pump the test tools and test equipment necessary for adjustment and testing.
Add the final parts to the injection pump.

Remove the injection pump with governor and supply pump from the injection-pump test bench.

Testing the injection-pump assembly for leaks:

Close off all open threaded ports on the governor and pump housings using screw plugs. Screw the front end of the seal-testing device KDEP 1045 onto the camshaft.
Connect a compressed-air hose to the seal-testing device.
Test the injection-pump assembly for leaks at 0.5 bar gauge pressure in an oil bath.
Unscrew the seal-testing device.

Apply a lead seal to the injection pump and governor.

After-sales Service

Technical Bulletin

New Product

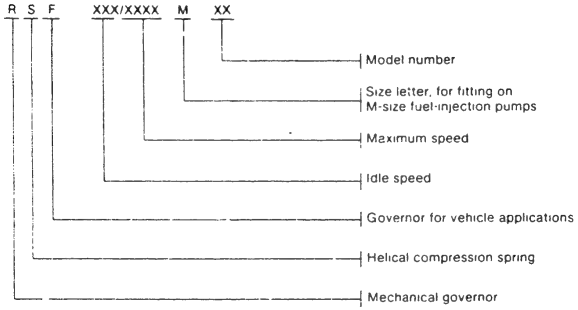
42

Mechanical governor
0 420 021.. – RSF..M..

VDT-I-420/1 En
1.1979

In new passenger cars from Mercedes-Benz, the familiar Bosch diesel fuel-injection pump, size **M**, is being fitted with the newly developed **RSF** mechanical governor.

1. Governor designation



2. Functional description

The **RSF** mechanical governor is a minimum-maximum-speed governor.

This type of governor governs the idle and the maximum speed. In the part-load range, the driver "governs" by means of the accelerator pedal.

Features

All adjustments can easily be carried out from the governor-cover side.

Pneumatic shutoff controlled by the ignition lock.

The governor can be fitted with add-on equipment for modification of its characteristic curve (altitude compensation, manifold-pressure compensator, etc.).

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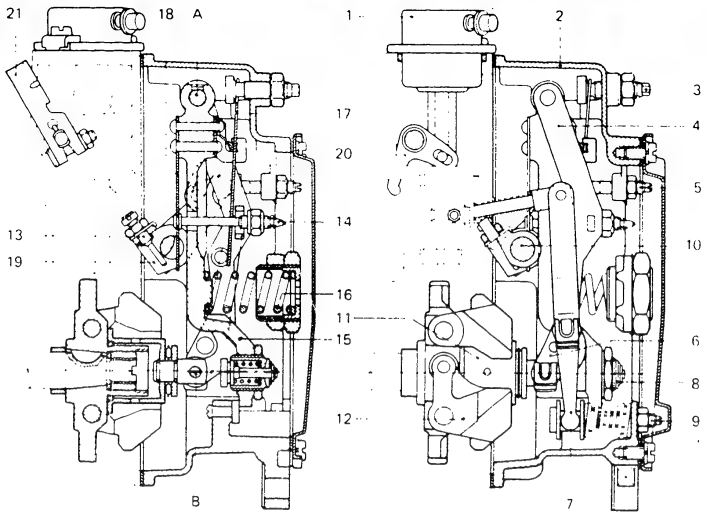

Fig. 1

1 - Pneumatic shutoff box (PNAB)
2 - Governor cover
3 - Idle stop screw
4 - Guide lever
5 - Stop screw for idle quantity
6 - Reverse transfer lever
7 - Fulcrum lever
8 - Spring retainer (torque control)
9 - Full-load stop screw
10 - Control lever
11 - Sliding sleeve
12 - Flyweights
13 - Idle-speed auxiliary spring shutoff
14 - Adjusting screw for idle speed auxiliary spring
15 - Tensioning lever
16 - Governor spring
17 - Idle spring
18 - Idle-speed auxiliary spring
19 - Linkage lever
20 - Stop lever
21 - Clamping lever

2.1 Sub-assemblies

The flyweight assembly (12) is directly secured to the camshaft

When the flyweights pivot outwards (12) the sliding sleeve (11) is shifted in the axial direction

The reverse transfer lever (6) and the guide lever (4) can move and are connected by means of a pin to the sliding sleeve (11) at the Point B

The fulcrum lever (7) can turn in the full-load stop screw (9) and is connected by a pin with the reverse transfer lever (6)

The injection pump control rod is connected through a strap with a cushioning spring to the fulcrum lever (7)

The control lever (10) is connected to the reverse transfer lever (6) through the linkage lever (19)

The tensioning lever (15) and the guide lever (4) pivot around the pivot point A

The idle speed auxiliary spring (18) is rigidly fixed to the tensioning lever (15)

The idle-speed spring (17) is hooked into a strap of the control lever and is supported on the guide lever (4)

The idle spring (17) is pretensioned by the adjusting screw (3)

2.2 Governing action during start and full load

If the control lever (10) is pushed up against the full-load stop in the governor housing when the engine is switched off, the reverse transfer lever (6) pivots around the pivot point **B** and moves the fulcrum lever (7) in the **Start** direction.

In the full-load position of the control lever (10) ("full-throttle"), the idle-speed auxiliary spring (18) is pushed away from the guide lever (4) by the idle-speed auxiliary spring shutoff (13).

This facilitates a more rapid speed regulation out of the start position of the governor.

After completion of the idle stage, the sliding sleeve (11) contacts the spring retainer (8). This causes the injection pump control rod to move to the full-load position through the action of the reverse transfer lever (6) and the fulcrum lever (7).

When a certain speed has been reached, the spring retainer (8) is compressed by a certain amount (torque control).

If the engine speed continues to increase, the fly-weight force is sufficient to overcome the governor spring (16) (full-load speed regulation).

Breakaway is dependent upon the pretension of the governor spring (16).

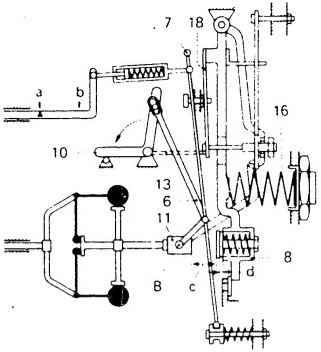

Fig. 2

a = Start
b = Stop
c = Idle stage
d = Torque control

2.3 Governing action at idle

The linkage lever (19) contacts the idle stop screw (5).

With increasing speed, the sliding sleeve (11) passes through the idle stage.

The guide lever (4) pivots around pivot point **A** and acts in opposition to the idle spring (17).

When a certain speed has been reached, the guide lever (4) contacts the adjusting screw of the idle-speed auxiliary screw (18).

The movement of the sliding sleeve (11) is transmitted, in the same sense of direction, to the injection pump control lever through the reverse transfer lever (6) and the fulcrum lever (7).

After completion of the idle stage, the sliding sleeve (11) contacts the spring retainer (8).

If the engine speed increases further, for instance during overrun, then, above a certain speed, the spring retainer is overcome and then the governor spring

This moves the control rod to the **stop position.**

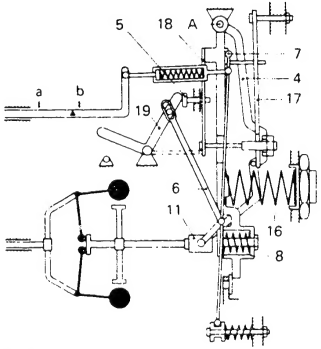

Fig. 3

a Start
b Stop

2.4 Governor stop-position

The vacuum pump is switched on by the ignition lock and applies vacuum to the pneumatic shutoff box (1)

This causes the diaphragm of the shutoff box to be pulled up against the force of the compression spring

The pneumatic shutoff box (1) is connected with the stop lever (20)

This pivots around the pivot point **D** and in doing so pulls the injection-pump control rod into the **Stop position.** The cushioning spring in the fulcrum lever is overcome in the process

Using the clamping lever (21), the control lever can, in a similar manner, be pulled into the Stop position from outside the governor

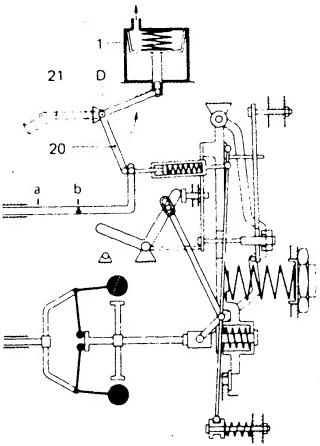

Fig. 4

a = Start
b = Stop

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